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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,309	04/20/2004	Chang-Hung Lee	B-5421 621840-7	5679

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EXAMINER

CABUCOS, MARIE G

ART UNIT PAPER NUMBER

2163

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/829,309

Applicant(s)

LEE, CHANG-HUNG

Examiner

Marie Antoinette Cabucos

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

In figure 4, the specification in page 8, line 30 and page 9, line 8 does not agree with the figure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The terms "weighted value" and "minimum support value" are not defined in the specification.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 8-10, and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma et al (US Publication no. 2003/0097367).

Regarding claims 1, 8 and 15 as best understood, Ma discloses in figures 3 and 4 a system and computer implemented method of mining association itemsets, comprising:

a database capable of storing at least one weighted record and at least one transaction record, each weighted record comprising a time scale (time period) and a weighted value (mapping values, item or key values), the transaction records partitioned

according to the time scale, and each transaction record comprising a plurality of items (paragraphs 0012, 0015, 0017);

a storage device (316) storing a minimum support value (predefined threshold values); and

an association analysis unit (314, 320), configured to input the minimum support value, the transaction record and the weighted record, calculate at least one weighted minimum support value using a weighted minimum support equation whose parameters comprise the time scale, the weighted value and the minimum support value, and generate at least one itemset among the items, calculate a weighted frequency for each itemset using a weighted frequency equation whose parameters comprise the weighted value, determine whether the weighted frequency for each itemset exceeds the weighted minimum support value (figure 4).

5. Regarding claims 2, 3, 9, 10, 16 and 17 as best understood, Ma discloses the system as claimed in claim 1 wherein an itemset record (324) within the database comprises at least one itemset; and wherein the association analysis unit further adds the itemset with weighted frequency exceeding the weighted minimum support value (410).

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-7, 11-14 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozden et al (US Patent no. 6,278,998) in view of Ma.

Regarding claims 4, 5, 11, 12, 18 and 19 as best understood, Ma discloses all the claim elements, as stated previously, except for the weighted minimum support values for subsequent partitions are calculated by adding previously calculated weighted minimum support values to the result of the weighted minimum support equation for the requisite partition, such that calculations for each successive partition are incremental; and

the weighted minimum support equation is the minimum support value multiplied by the weighted value corresponding to the current partition plus the result of the weighted minimum support equation for the requisite partition. However, Ozden discloses such a calculation (figure 3 and col. 6, line 38 to col. 7, line 32).

8. Regarding claims 6, 7, 13, 14, 20 and 21 as best understood, Ozden discloses wherein the weighted frequency of the itemset for subsequent partitions is calculated by adding previously calculated weighted frequencies to the result of the weighted frequency equation for the requisite partition, such that calculations for each successive partition are incremental; and

wherein the weighted frequency equation comprises occurrence of the itemset in the current partition multiplied by the weighted value corresponding to the current

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partition plus the result of the weighted frequency equation for the requisite partition (col. 7, line 34 to col. 8, line 34).

***Pertinent Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art of Agrawal et al (US Patent no. 5,819,266) discloses a system and method for mining sequential patterns in a large database.

Prior art of Agrawal et al (US Patent no. 6,094,645) discloses finding collective baskets and inference rules for internet or intranet mining for large databases.

Prior art of Chakrabarti et al (US Patent no. 6,189,005) discloses a system and method for mining surprising temporal patterns.

Prior art of Mahajan et al (US Patent no. 6,236,982) discloses a system and method for discovering calendric association rules.

Prior art of Agrawal et al (US Patent no. 6,263,327) discloses finding collective baskets and inference rules for internet mining.

Prior art of Dan Holle (US Patent no. 6,836,777) discloses a system and method for constructing generic analytical database applications.

Prior art of Agrawal et al (US Publication no. 2001/0037324) discloses a multilevel taxonomy based on features derived from training documents classification using fisher values as discrimination values.

Prior art of Ma et al (US Publication no. 2003/0023591) discloses a system and method for discovering mutual dependence patterns.

Prior art of Ma et al (US Publication no. 2003/0078686) discloses a system and method for discovering fully dependent patterns.

Prior art of Lee et al (US Publication no. 2003/0217055) discloses an efficient incremental method for data mining of a database discovering mutual dependence patterns.

### ***Inquiry***

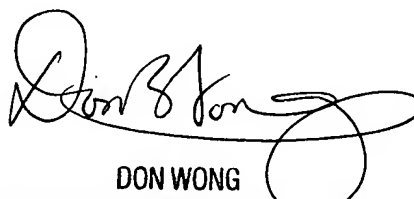
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie Antoinette Cabucos whose telephone number is 571-272-8582. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marie Antoinette Cabucos  
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